

U.S. Department of Commerce, Patent and Trademark Office					Atty Docket No.		Serial No.	
					M-11040-3P US		Not yet known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT					Applicant(s)			
(Use several sheets if necessary)					Krames, Michael R.; Takeuchi, Tetsuya			
					Filing Date		Group	
					Herewith		Not yet known	
U.S. Patent Documents								
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
MG	AA	6,229,151	5/8/01	Takeuchi et al.	257	14		
	AB							
	AC							
	AD							
	AE							
Foreign Patent Documents								
							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
MG	AF	0 743 727 A1	20.05.1996	EP				
MG	AG	0 716 457 A2	01.12.1995	EP				
MG	AH	96/24167	05.02.1996	PCT				
MG	AI	01/41224 A2	30.11.2000	PCT				
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)								
MG	AJ	H. Amano, N. et al., "Metalorganic vapor phase epitaxial growth of a high quality GaN film using an AlN buffer layer", Appl. Phys. Lett. 48 (5), 3 February 1986, pp. 353-355.						
MG	AK	Shuji Nakamura, "GaN Growth Using GaN Buffer Layer", Japanese Journal of Applied Physics Vol. 30, No. 10A, October, 1991, pp. L1705-L1707.						
MG	AL	Noriyuki Kuwano et al., "Cross-sectional TEM study of microstructures in MOVPE GaN films grown on $\alpha$ -Al <sub>2</sub> O <sub>3</sub> with a buffer layer of AlN", Journal of Crystal Growth 115 (1191), pp. 381-387.						
MG	AM	Dongjin Byun et al., "Optimization of the GaN-buffer growth on 6H-SiC(0001)", Thin Solid Films 289 (1996), pp. 256-260.						
MG	AN	K. Horina et al., "Initial Growth Stage of AlGaIn Grown Directly On (0001) 6H-SiC By MOVPE", Mat. Res. Soc. Symp. Proc. Vol. 449 1997 Materials Research Society, pp. 73-78.						
MG	AO	Tetsuya Takeuchi et al., "Quantum-Confined Stark Effect due to Piezoelectric Fields in GaInN Strained Quantum Wells", Jpn. J. Appl. Phys. Vol. 36 (1997), pp. L382-L385, Part 2. No. 4A, 1 April 1997.						
MG	AP	Tetsuya Takeuchi et al., "Theoretical Study of Orientation Dependence of Piezoelectric Effects in Wurtzite Strained GaInN/GaN Heterstructures and Quantum Wells", Jpn. J. Appl. Phys. Vol. 39 (2000) pp. 413-416, Part 1, No. 2A, February 2000.						
Examiner <i>Yoshinori Goto</i>			Date Considered <i>12-12-02</i>					
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

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OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
MC	AQ	K. Horino et al. "Growth of (1100) Oriented GaN on (1100) 6H-SiC by Metalorganic Vapor Phase Epitaxy", International Symposium on Blue Laser and Light Emitting Diodes, Chiba Univ., Japan, March 5-7, 1996, pp. 530-533.	
MC	AR	K. Domen, "Analysis of polarization anisotropy along the c axis in the photoluminescence of wurtzite GaN" Appl. Phys. Lett. 71 (14), 6 October 1997, 3 pp.	
MC	AS	Seoung-Hwan Park et al., "Crystal-orientation effects on the piezoelectric field and electronic properties of strained wurtzite semiconductors", Physical Review B, Volume 59, Number 7, 15 February 1999-I, pp. 4725-4737.	
MC	AT	Andreas Hanglieter, "The role of piezoelectric fields in GaN-based quantum wells", MRS Internet J. Nitride Semicond. Res. 3, 15 (1998) 1998-1999 The Materials Research Society, pp.1-8.	
MC	AU	Fabio Bernardini et al., "Spontaneous polarization and piezoelectric constants of III-V nitrides", 1997 The American Physical Society, Volume 56, Number 16, 15 October 1997-II, pp. R10 024-R10 027.	
MC	AV	Tetsuya Takeuchi et al., "Determination of piezoelectric fields in strained GaInN quantum wells using the quantum-confined Stark effect", Applied Physics Letters, Volume 73, Number 12, 21 September 1996, pp 1691-1693	
MC	AW	S.F. Chichibu et al., "Optical properties of InGaN quantum wells", Materials Science and Engineering B59 (1999), pp. 298-306.	
MC	AX	S.F. Chichibu et al., "Effective band gap inhomogeneity and piezoelectric field in InGaN/GaN multiquantum well structures", Applied Physics Letters, Volume 73, Number 14, 5 October 1998, pp. 2006-2008.	
MC	AY	Takashi Mukai, et al., "Current and Temperature Dependences of Electroluminescence of InGaN-Based UV/Blue/Green Light-Emitting Diodes", Jpn. J. Appl. Phys. Vol. 37 (1998), pp. L1358-L1361.	
MC	AZ	Fabio Della Sala, et al., "Free-carrier screening of polarization fields in wurtzite GaN/InGaN laser structures", Applied Physics Letters, Volume 74, Number 14, 5 April 1999, pp. 2002-2004.	
MC	BA	L.H. Peng, et al., "Piezoelectric effects in the optical properties of strained InGaN quantum wells", Applied Physics Letters, Volume 74, Number 6, 8 February 1999, pp. 795-797.	
MC	BB	W.W. Chow, "Quantum-well width dependence of threshold current density in InGaN lasers", Applied Physics Letters, Volume 75, Number 2, 12 July 1999, pp. 244-246.	
MC	BC	Edited by Shuji Nakamura and Shigefusa F. Chichibu, "Introduction to Nitride Semiconductor Blue Lasers and Light Emitting Diodes", First published 2000 by Taylor & Francis, 8 pp.	
MC	BD	Atsuko Niwa et al., "Valence subband structures of (1010)-GaN/AlGaIn strained quantum wells calculated by the tight-binding method", Appl. Phys. Lett. 70 (16), 21 April 1997, pp. 2159-2161.	
Examiner <i>maria Guerrero</i>		Date Considered <i>12-17-02</i>	
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		Filing Date	Group
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MC	BE	Akihiko Ishibashi et al., "Metalorganic Vapor Phase Epitaxy Growth of a High-Quality GaN/InGaN Single Quantum Well Structure Using a Misoriented SiC Substrate", Jpn. J. Appl. Phys. Vol. 36 (1997), pp. 1961-1965.	
MC	BF	D.A.B. Miller, D.S. Chemla et al., "Band-Edge Electroabsorption in Quantum Well Structures: The Quantum-Confined Stark Effect" Physical Review Letters, Volume 53, Number 22, 26 November 1984, pp. 2173-2176.	
MC	BG	K. Domen et al., "Optical gain for wurtzite GaN with anisotropic strain in c plane", Appl. Phys. Lett 70 (8), 24 February 1997, pp. 987-989.	
MC	BH	D.L. Smith et al., "Piezoelectric effects in strained-layer superlattices", J. Appl. Phys. 63 (8), 15 April 1998, pp. 2717-2719.	
	BI		
	BJ		
	BK		
	BL		
	BM		
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	BQ		
Examiner <i>Maria G. Gervais</i>		Date Considered <i>12-17-02</i>	
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(Use several sheets if necessary)		Krames, Michael R.; Takeuchi, Tetsuya; Yamada, Norihide; Amano, Hiroshi Akasaki, Isamu	
		Filing Date	Group
		November 13, 2001	Not yet known

## U.S. Patent Documents

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	AG						
	AH						
	AI						
	AJ						
	AK						

## Foreign Patent Documents

							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
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	AN							
	AO							
	AP							

## OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	AQ	
	AR	
	AS	

Examiner *Yana Guerrero*

Date Considered

*12-17-02*

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